

Patterns of heroin abuse among suburban youth are described. Epidemiologic data indicate that the City of Detroit served as the source of contagion for this youth group, and then spread along peer groups. Dimensions of the problem are indicated.

Heroin Addiction in the Suburbs —An Epidemiologic Study

Introduction

The Lafayette Clinic is a psychiatric facility of the Department of Mental Health and Wayne State University in Detroit with 25,000 patient appointments each year, drawing referrals primarily from a three-county area in the southeastern part of Michigan. A monitoring of activities by the Adult Outpatient Service of the Lafayette Clinic conducted over a nine-week period, beginning in December 1969, including over 400 telephone calls, walk-ins, and adult appointments showed that one out of four requests for assistance involved some form of drug dependence. Heroin dependence was the presenting problem in one-half of these drug-related cases. Such an increased demand for the treatment of heroin abuse is common experience according to professional publications and the popular press. This phenomenon may be due to increased referrals to treatment facilities, an increase in the incidence and prevalence of heroin abuse or a combination of these factors. This study was undertaken because of the general dearth of statistical data relevant to current prevalence and patterns of heroin abuse.

Method

This study was conducted during a ten-week period from January 20, 1970 to March 30, 1970 in Grosse Pointe, Michigan, a suburban Detroit community, comprised of five municipalities with a total population of 61,795.¹ Grosse Pointe is a relatively affluent community bordering on a far less affluent City of Detroit. In addition to its accessibility in terms of physical distance, it was an attractive community because of the lack of information relative to heroin abuse in higher socioeconomic groups. The primary reasons for selection of this community for investigation were the availability of a clinical population of heroin users and numerous contacts with referring social agencies furnishing entrée into drug culture in the area. This was possible because in January 1970 the Lafayette Clinic began a pilot program for the treatment of heroin abuse in adolescents and young adults drawing referrals from social agencies in Grosse Pointe. It was of additional interest that a randomized survey of drug abuse was conducted by the Grosse Pointe Public School System just prior to this study.²

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The objectives of this study were to examine the various patterns of heroin abuse in the community and estimate to some degree its prevalence. For these purposes heroin abuse was regarded as an infectious disease and epidemiological methods were applied patterned after the work of de Alarcon in England.³ As heroin abuse is a practice transmitted from one individual to another it is analogous to an infectious disease and epidemiological methods are applicable. The study cited above by de Alarcon dealt almost exclusively with a clinical population of heroin abusers. This study could not reach all the heroin users in the community or even be undertaken with a random sampling. Thus, the main thrust is towards examination of the various patterns of heroin abuse. It was possible, however, to estimate the prevalence rate in one large public high school in the area, utilizing informants.

The personal interview technique was used for collection of data with information recorded by an interviewer on a questionnaire (see Appendix). The initial contacts with the population of heroin users in the community were made through local physicians, and the interviews were conducted by personnel from the Lafayette Clinic. As the study progressed, heroin users from Grosse Pointe were employed to conduct interviews. This latter data was verified by repeating selected interviews and comparing data obtained. The interviews were conducted in a wide variety of places in the community.

In the collection of the epidemiological data the point of inception of heroin abuse was considered as the first injection. If two or more persons were present when a person first used heroin, the initiator was considered to be the one primarily responsible by providing the heroin, offering encouragement, or administering the infection. Subjects interviewed in the community were asked to identify individuals they introduced to heroin as well as their own initiators. Those interviewed were encouraged to identify even those individuals they only suspected that they had initiated and an attempt was made to substantiate this information in subsequent interviews with suspected initiates.

Over 70%, or 13,179 of the 18,780 school age children (ages 5-19) in Grosse Pointe were currently enrolled in public schools.¹ An estimate of the prevalence rate of heroin abuse at the high school level in the community was made. A complete roster of students of Grosse Pointe High School South, a large public high school with an enrollment of around 2,100, was reviewed with several heroin users on separate occasions. The informants were asked to identify anyone they knew definitely to have used heroin. Those individuals considered as heroin users in determining prevalence rates in this study were confirmed by law enforcement agencies, local physicians, and their own affirmation. A composite of information obtained from interviews and informants concerning all young adults and adolescents in the community suspected of using heroin was compiled. Before being retained as a part of the study these individuals were confirmed as stated above. This data furnished an estimate of the minimum prevalence rate of heroin abuse in that segment of the population in Grosse Pointe. In all instances information was treated confidentially.

Results

Approximately 300 adolescents and young adults from Grosse Pointe ranging in age from 15 to 19 years were determined as described above to have used heroin. Ac-

cording to May 1969 census, there were 7,471 individuals in the community in this age range.¹ The minimum prevalence rate of heroin abuse in the community in this segment of the population is roughly 40/1000. This represents a minimum rate of prevalence as a large number of heroin users undoubtedly went undetected and some suspected users were unconfirmed.

Of the 2,100 students enrolled in Grosse Pointe High School South, 87 students, 65 males and 22 females, were determined to have used heroin. Of this number 52% were in the 12th grade, 31% in the 11th grade, 16% in the 10th grade, and 1% in the 9th grade. The minimum rate of prevalence in Grosse Pointe High School South was about 41/1000. Again this represents a minimum prevalence rate as some heroin users may have gone undetected. A prevalence rate of heroin abuse of 2.9% is quoted from a recent survey conducted by the Grosse Pointe Public School System.²

Personal interviews were conducted with 60 heroin users from Grosse Pointe. The selection of those interviewed was skewed by the epidemiological approach taken. The data subsequently presently is based almost exclusively on those 60 interviews.

The population interviewed ranged in age from 15 to 24 years with an average age of 18.8 years and a median age of 19 years. Of the 60 individuals interviewed 52 were male and eight female. The population appeared to be

Table 1—Population Statistics for the Use of Various Substances and Drugs

	(Median age, actual number and percentage, of group)								
	Tobacco	Alcohol	Marijuana	Barbiturates	Amphetamines	Psychedelics	Heroin	Opiate	Other
Median age of population for use of following	13	14	15	17	17	17	17	17	15
Number of individuals having used following	58	57	60	47	58	60	60	52	38
Per cent of population having used following	97	95	100	78	97	100	100	87	63
Number of individuals using following within month prior to interview	56	37	59	15	11	24	46	14	0
Per cent of population using following within month prior to interview	95	61	99	25	18	40	77	23	0

equally distributed among the five municipalities of Grosse Pointe. All of those interviewed were unmarried, Caucasian, and living in Grosse Pointe.

Protestants comprised 52% of those interviewed, 35% were Catholic, and 3% Jewish, while 10% gave no religious affiliation. An overwhelming proportion, 97%, were not active in any form of organized religion and considered their affiliation entirely nominal. Only 3% attended religious services with any regularity.

Of the 60 subjects interviewed 23 were currently attending school, 11 were employed and no longer attending school, and the remaining 26 were neither employed or in school. There were 14 subjects of the 23 in school attending local public high schools and nine attending local colleges. Of the 11 subjects who were employed four had not completed high school, the remaining seven had completed high school education only. The four not having completed high school were only sporadically employed in a variety of menial jobs while the remaining seven tended toward more regular employment. Of the 26 neither in school or employed, 20 had not completed high school.

Table 1 illustrates several interesting findings concerning patterns of drug abuse in the 60 heroin users interviewed. Most individuals ran the gamut of available drugs, and 63% had experimented with glue, freon, Bactine, and other substances of an unusual nature. In this population the use of tobacco, alcohol, and marijuana began at an early age. There is a two-year difference between the median age for use of heroin and that for marijuana. This was a relatively constant finding in this population regardless of the age at which the use of marijuana occurred. In individual cases the use of heroin was usually immediately preceded by the use of psychedelics, amphetamines, and barbiturates as reflected in the median ages for the use of these drugs. Psychedelic drugs are mostly LSD, mescaline, and psilocybin according to the informants. It is interesting to note that the use of most drugs waned substantially over time while only marijuana and heroin enjoyed any semblance of their original popularity as evidenced by use in month prior to interview.

With respect to the current status of heroin abuse those interviewed can be divided into three rather distinct

groups, as shown in Table 2. There were 22 individuals, or 37%, using heroin regularly or on a daily basis. Occasional heroin users comprised 40% of the population, or 24 subjects. This is a rather ill-defined group ranging widely in frequency and amount of heroin used. Former users numbered 14, or 23% of the population. They used heroin during the past calendar year but not in the month prior to interview. There appeared to be no correlation between the extent of previous heroin use and the current status as classified. In other words, a number of individuals, who had used heroin on a daily basis, had not used heroin in the month prior to being interviewed, and the converse was also true. It seems useful to view the population in terms of frequency of heroin usage because of the correlates. Generally the frequency and amount of heroin used appeared to bear an inverse relationship to individual involvement in work or school.

As shown in Table 2, 22 subjects were using heroin on a daily basis. An average of \$30 of heroin per day was used by 18 of this group. None of these individuals were employed or attending school. This group could probably be considered as addicts in the strictest sense of the word, in that they were compulsive drug users, physically dependent, and virtually all of their energies were directed toward obtaining the drug.⁵ The remaining four members of this group used an average of \$5 of heroin per day and were currently attending local public high schools.

The occasional heroin users, or "joy poppers" were comprised of 24 individuals of the 60 interviewed. Of this group, 12 were either currently employed on a regular basis or attending high school or college. These individuals used heroin on the average of four times per month, using an average of \$5 each time. Although subject to considerable variation, \$5 of heroin at the time of the survey probably represented a dose of under two milligrams. This was generally recognized in the drug culture, and the term "needle freak" was applied to an individual with this pattern of heroin abuse. The implication is that there is some motivating force other than the sensation experienced from the heroin. The remaining 12 occasional heroin users were neither employed nor attending school. This portion of the group averaged using heroin nine times per month con-

Table 2—Breakdown of Population According to Frequency of Heroin Use, Average Cost per Day, and Involvement in School or Work

Group	Total number of individuals	Number of individuals in Subgroup	Average frequency of Heroin	Average cost per day	Employed or attending school
Regular users	22	18	Daily	\$30	None
		4	Daily	\$ 5	All
Occasional users	24	12	9 times/month	\$20	None
		12	4 times/month	\$ 5	All
Former users	14	5	none*		All
		9	none†		All

* Group formerly used average 4 times per month, \$5 heroin each time.

† Used average of \$25 heroin on daily basis previously.

suming an average of \$20 of heroin each time. In many instances this pattern of occasional heroin use had been maintained for one year or more at the same frequency and dosage.

There were 12 subjects not currently using heroin who had abstained for at least one month prior to the interview. Previously nine members of this group had been occasional users of an average daily habit of \$25 per day. All of those interviewed not currently using heroin were regularly employed or attending school at the time. In contrast to the regular users, a number of whom had received or were undergoing some form of therapy for drug dependence, none of these former users had received any form of treatment.

Virtually all of the regular heroin users sold drugs to support their habit, while only half of the occasional users sold drugs. Shoplifting, forgery, and burglary were other commonly used means for obtaining money for drugs. At the time of this survey it was possible to purchase heroin at a local gas station and some individuals reported using their parent's credit card to buy heroin. Generally only those who were truly addicted resorted to serious crime as a means to support their habit.

Figure 1 is a diagrammatic representation of a representative sample of the epidemiological data obtained from the 60 individuals interviewed. In two instances it was possible to trace the point source of contagion to the inner city of Detroit. Heroin abuse subsequently spread from person to person largely within existing peer groups in the community of Grosse Pointe. One reason for an individual to initiate others to the practice of using heroin is to

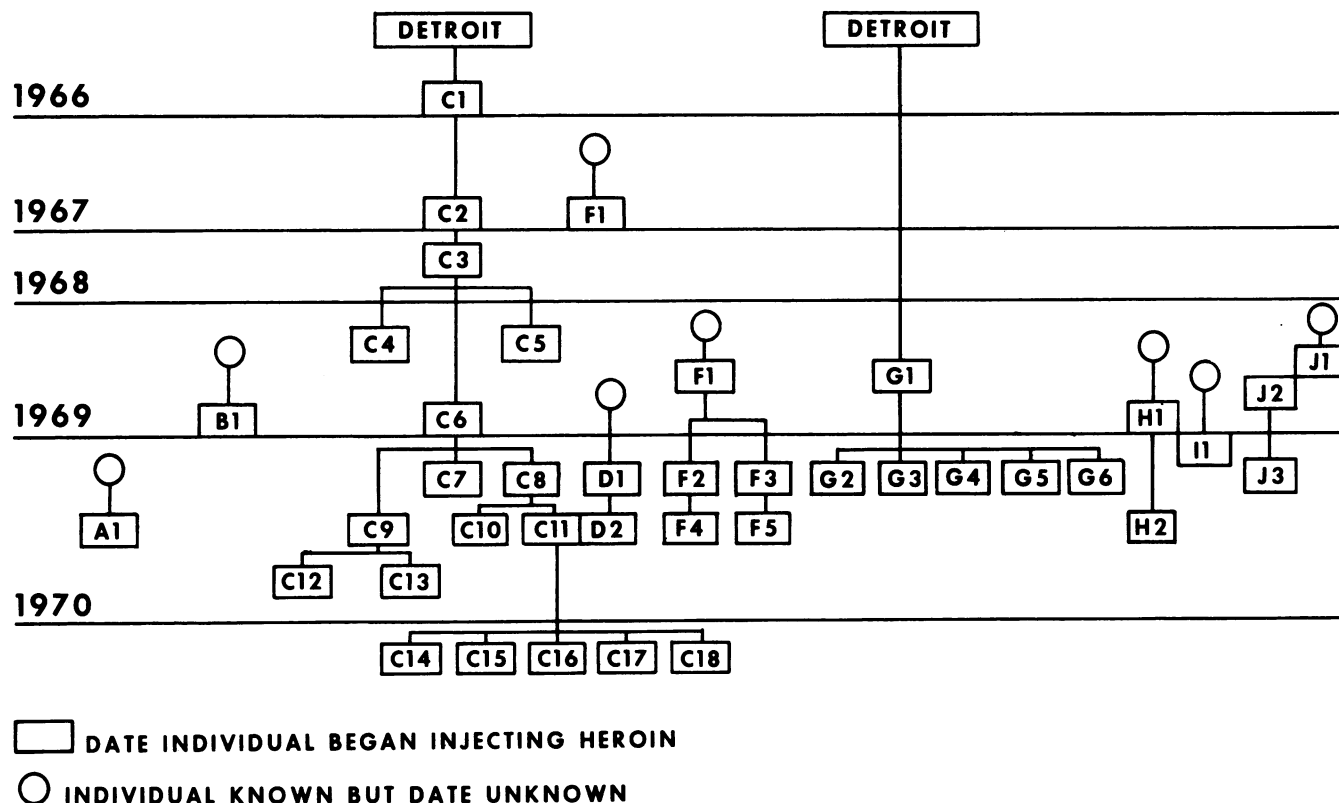
provide himself with a source of income to support his own habit. The new heroin user is dependent on established users in the community for a supply of drugs until he has gained sufficient confidence to be introduced to a larger source of supply. Heroin abuse is then perpetuated in the community as others are initiated and seek to support their habits.

There were relatively few of those interviewed using drugs in the community prior to 1968 as reflected in Figure 1. For the most part the subsequent periods of rapid expansion coincide with summer vacation periods. Many of those interviewed reported beginning to experiment with heroin during the summer of 1969 and related this to the scarcity of marijuana due to Operation Intercept. If those interviewed are representative of the community as a whole, it would appear that heroin abuse is on the rise in Grosse Pointe.

Discussion

In spite of the numerous differences between de Alarcon's Crawley New Town and Grosse Pointe, the epidemiological data obtained bears a striking similarity.³ The spread of heroin abuse in Grosse Pointe, if the population interviewed can be considered as representative of that community, can be considered as encompassing three phases similar in duration and activity to the situation in Crawley New Town. At least the subsequent observations appear valid for the population interviewed. The first phase during 1966-67 might be considered as the infectious phase, in which heroin abuse is introduced into Grosse Pointe from Detroit. This period was characterized by a low den-

Figure 1—Spread of Heroin Abuse in Grosse Pointe



sity of heroin abusers in the community. The second phase occurring in 1968 might be called the multiplication phase. During this time some users act as vectors spreading heroin abuse, while others serve as reinforcement by their presence. The third phase in 1969, or the phase of rapid dissemination, is marked by an explosion of heroin abuse in the community. During this period there is an ever greater exposure of the susceptible population to sources of contagion. Factors such as multiple drug use and summer vacation time contribute to the rapid expansion of heroin in the community. Some of those interviewed in this survey indicated that the shortage of marijuana brought about by Operation Intercept led to experimentation with heroin. This has been confirmed by other workers in various parts of the country.⁴ The availability of the drug to the susceptible population seems to be the prime factor determining spread in the community.

There seems to be a lag period for the detection of new users in the community. Some individuals were interviewed who started using heroin during the 10 weeks of this survey, but this was merely a fortuitous consequence of having interviewed their initiator. These individuals are not able to buy heroin directly from a "dope house" or wholesaler, and do not become generally known in the community for a period of months. This phenomenon probably accounts at least in part, for the relative paucity of very recent heroin users in the epidemiological data.

It is probably somewhat artificial to present the population interviewed as being comprised of regular, occasional, and former users. This is inaccurate as it is a static view of a dynamic population, constantly in a state of flux. The problem of heroin abuse can probably best be understood as a continuous spectrum from the individual making a single casual experiment with the drug to the hard-core heroin addict.

The term addict should be reserved for the compulsive drug user, overwhelmingly involved with the use of the drug, securing its supply, and with a high tendency to relapse after withdrawal.⁵ Many of the regular heroin users and some of the occasional users in this survey could probably be considered in this category. The former users in this survey were those who had not used heroin in the month prior to being interviewed, although many had a significant dependence on heroin earlier. None of this group of former users had received any form of treatment in any way related to drug dependence or predisposing factors, e.g. emotional problems, while a number of regular heroin users were currently being treated by local physicians with methadone, psychotherapy and other modalities. Individual involvement in work or school may be of some prognostic value. All of the former users in this survey were currently working or attending school regularly, while 82% of the regular users were not.

Probably most of the occasional users could be considered to be psychologically dependent or habituated as many of these individuals indicated that the effects of heroin or conditions associated with its use are necessary to maintain an optimal state of well-being.⁵ Some of those, who remain week-end heroin users for extended periods of time are probably able to do so because their dosage range is less than two mg. This is generally recognized in the drug community and these individuals, as already mentioned, are commonly referred to as "needle freaks" implying that there

is more interest in the conditions associated with use than with the drug itself. Others using higher dosages of heroin on an occasional basis would be interesting subjects for long-term studies. Some of those interviewed maintained this pattern of occasional heroin use for as long as two years. At least in some instances this pattern does not appear to be a transition state between experimentation and addiction or addiction and abstinence.

Conclusions

Patterns of heroin abuse among suburban youth are described. Those interviewed presented a complete spectrum of heroin abuse, including true addiction, habituation, and total abstinence. Some young people who had significant dependence on heroin made a recovery without treatment. In this regard involvement in meaningful employment or school is considered a positive prognostic sign.

The epidemiologic data indicate that the City of Detroit served as the point source of contagion for this segment of suburban youth. Heroin abuse spread in the population subsequently following lines of peer groups. If these data are representative of the community as a whole it appears heroin abuse is reaching epidemic proportions. A prevalence rate of heroin abuse of 4.1% was determined for a local public high school.

Appendix

QUESTIONNAIRE ON HEROIN

- 1:1 DATE OF INTERVIEW:
- 1:2 INTERVIEWER:
- 1:3 PLACE OF INTERVIEW:
- 2:1 IDENTIFICATION:
- 2:2 AGE:
- 2:3 SEX: M F
- 2:4 RACE: C N
- 2:5 MARITAL STATUS: S M D E
- 2:6 CHILDREN:
- 2:7 RESIDENCE (City and Cross streets)
- 2:8 LENGTH IN RESIDENCE:
- 2:9 OCCUPATION OF FAMILY BREADWINNER:
- 2:10 FAMILY STATUS:
- 2:11 SCHOOL CURRENTLY ATTENDED AND CLASS:
- 2:12 LEVEL OF EDUCATION:
- 2:13 CURRENT EMPLOYMENT AND POSITION:
- 2:14 SKILLS OR TRADE:
- 2:15 RELIGION: C P J O STATUS A I
- 3:1 HAVE YOU USED ANY OF THE FOLLOWING? INDICATE MONTH/YEAR YOU BEGAN USING THE DRUG. BE AS SPECIFIC AS YOU CAN:
TOBACCO _____ BARBITURATES _____
HEROIN _____ ALCOHOL _____
AMPHETAMINES _____ OPIATES _____
MARIJUANA _____ PSYCHEDELICS _____
OTHER (GLUE) _____
- 3:2 CIRCLE THE DATES IN ITEM 3:1 NEXT TO THE DRUGS WHICH YOU HAVE INJECTED AT ANY TIME.
- 3:3 WHAT SUBSTANCES OR DRUGS ARE YOU USING NOW?
CHECK THOSE YOU HAVE USED IN THE LAST MONTH OR THOSE YOU WILL USE AGAIN:
TOBACCO _____ BARBITURATES _____

HEROIN _____ ALCOHOL _____
AMPHETAMINES _____ OPIATES _____
MARIJUANA _____ PSYCHEDELICS _____
OTHER (GLUE) _____

- 3:4 CIRCLE THE CHECK MARKS IN ITEM 3:3 NEXT
TO ANY DRUG YOU ARE SHOOTING
3:5 WHO FIRST TURNED YOU ON TO HEROIN?
3:6 HOW LONG (HAVE YOU USED/DID YOU USE)
HEROIN?
3:7 UNDER WHAT CIRCUMSTANCES DID YOU TAKE
YOUR FIRST FIX?
3:8 WHAT (IS/WAS) YOUR SOURCE(S) OF HEROIN?
3:9 HOW BIG (IS/WAS) YOUR HABIT? GIVE COST
AND/OR AMOUNT PER DAY:
3:10 HOW (DO/DID) YOU SUPPORT YOUR HABIT?
3:11 HAVE YOU TURNED ANYONE ON TO HEROIN?
LIST EVEN THOSE YOU ARE NOT QUITE SURE
ABOUT OR MAY NOT BE TAKING HEROIN NOW:
3:12 (DO/DID) YOU COP OR SELL HEROIN?
3:13 DO YOU KNOW ANYONE WHO IS USING OR HAS
USED HEROIN?

4:1 CORRELATION AND COMMENTS:

References

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